Simple Business Graphics

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Published by
Honeysoft Publishing Company
1a Pattison Avenue,
Waitara, N.S.W. 2077

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ISBN 0 949309 45 1

First published in Australia 1985
Reprinted 1986

Printed by
Central Coast Printery
Debenham Road,
West Gosford, N.S.W. 2250

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SIMPLE BUSINESS GRAPHICS

Simple Business Graphics is a general program to create several kinds of simple graphs. The created screens can have text added, be printed or saved as disk files for future reference.

1. System Requirements

This program is written in Microworld Disk BASIC. At the time of writing, there are five significantly different Microbee systems which can run this BASIC and therefore should be able to run "Simple Business Graphics". These are :-

The 56k Series 2 Advanced Personal Computer
The 64k Computer-In-A-Book
The 128k Small Business Computer
The Floppy Drive Star Network
The 1Ø Megabyte Hard Disk Star Network

To function, the disk on which you operate Simple Business Graphics, from this point referred to as SBG, must not be write protected and must contain the files SBG.MWB, DEMO.SBG and HELP.SBG.

***** Special notice *****
to 128k owners and Hard Disk Network operators.

Some of the first models of the 128k were supplied with Microworld BASIC version 6.22e . This version will not support the graphic save and load commands upon which this program depends. If you have 6.22e, see your nearest Microbee centre about having it replaced with version 6.23e, which does support these routines.

For the Hard Disk Star Network, there will be two versions of Microworld Disk BASIC. One is for the workstations and the other is for use on the master station when it is operating as a stand-alone. The workstation version is 6.23n and the stand-alone version is 6.23e.

For other Microbee owners, please realise that 6.22e IS the correct version for your system.

2. General Concepts

It is important that you read this section.

This program revolves around the idea of a CURRENT DIAGRAM. Except when you first run the program, there will always be one current diagram. The CURRENT diagram does not always have to be on the screen. It is often kept out of sight while you are dealing with the program's instructions. You may consider that this diagram is inside the computer and that anything you attempt to do will operate on it. If you wish to work on a different diagram, you will have to first change the CURRENT diagram.

In order to store many diagrams for later use or reference, you will be able to instruct the program to save a copy of the CURRENT diagram onto the disk.

When you want to use a diagram that you have previously saved, you will be able to instruct the program to copy the diagram from disk and make the copy CURRENT.

Of the various options given, only two can be classed as creative. These are CREATE and TEXT EDIT. The others either don't affect the contents of a diagram or merely copy between CURRENT and disk stored diagrams.

What is likely to cause some confusion is the fact that the current diagram exists on the disk and is only ever held in the computer's memory when you are actually doing something with it. This does mean that the drive is going to be accessed frequently in the program's normal operations. Consequently, it is pointless removing the disk while the program is running.

In all parts of the program and of these notes, I have used the words "graph" and "diagram". There is no real distinction between them and you should read both as meaning the CURRENT diagram unless stated otherwise. From this point, the word "current" will not be placed in capitals.

3. The Main Selection Menu

Listed on the screen are the various functions of the program and the keys that you should press to call them.

One area to notice, however, is the line below the "Simple Business Graphics" title (in inverse characters). This line is a reminder of the last operation you performed, which may have altered the diagram that is considered current. When you first enter the program, the line states:

> The current diagram is of type NO CURRENT DIAGRAM

This line will change after you have used any of the options that alter or replace the current diagram. Its presence is not

definitive and it is included only as an aid to remembering what you were doing.

4. Create a Diagram Menu

This is the only means of making a completely new graph. One point to realise is that creating a new diagram will mean replacing the diagram that was current. You will not be warned of this with sirens and flashing displays. If you are not sure whether you have finished with the current diagram or you cannot remember whether you had saved it to disk, you can press the ESCAPE key to return to the main title without risk. You may still be able to abort without changing the current diagram, if you continue to create a new graph, however, don't count on this.

There are four types of graph provided (two forms of histograms, line graphs and pie charts), the first three of which are very similar.

Notes for the two Histograms and the Line Diagram

For creating these three types of graph, the procedure is the same. After selecting the type of graph from the "Create a new graph" menu, you will asked a series of questions regarding the size and shape of the graph. When all relevant questions have been asked, you will be shown the answers you made and asked if they are correct. If your response is "No", you will be offered a chance to re-enter them and then again asked if the entries are correct.

When you reply "Yes", the screen will clear and the borders of the graph will be drawn. At the bottom of the screen the program will request your data. Type in the relevant value and press <RETURN>. The program will plot the figure you entered and request another. This will continue until all data has been entered. There will be a pause while the new graph is installed as the current diagram, after which you will be placed back at the main selection menu.

The two histogram options in SBG are capable of drawing identical graphs. They differ in the way they can accommodate more than one datum per period.

The line graph and the two histograms are really intended for the plotting of figures over consecutive periods of time. This is not a problem if you do not want a time based graph, but the program will always ask questions on this basis.

When responding to questions, it can be of assistance to know what sort answer is required. Generally, the program is only ever looking for three types of responses.

(i) Flags - Any time that a question is seeking a "Yes" or "No" response, you may answer with anything you like. Only the first character of your entry will be surveyed however, and it will only be noticed if it is the reverse of the default. The letter that will be noticed is always either a "Y" or an "N". If, for example, the question was :-

"Will there be any negative values ? .....<NO>"

and you replied with "Banana smoothie", your response would be taken as the default value. In this case, you can only select positive values exclusively by entering a word beginning with "Y".

(ii) Answering counts. Quite a few of the questions need, as responses, a number that you require. It is pointless to respond to a request similar to the following:

"How many periods are to be graphed ?.....<12>"

with a number like 2.12 . Whole numbers must be used.

(iii) Any other questions only need a response of a number of some type.

Questions common to the first three types of graph.

Maximum value to be graphed :-

The value entered here should be the largest figure you will be entering as data for the graph. The program will make this figure use the full height allowed for the graph.

Diagram width (Max 447) :-

This value is the number of pixels (dots) across that you wish the entire graph to represent. There is a maximum set, so if you should enter a figure higher, the question will be repeated. The number is a count of pixels and therefore there is no point entering any values with decimals. The full screen is actually 512 pixels wide.

Diagram height (Max 200) :-

This is the number of pixels from the top to the bottom of the graph and, being a count, should not contain a decimal point. If you enter a figure higher than the maximum, the question will be asked again. The full screen is actually 256 pixels high.

Number of periods :-

For a simple graph, this will be the number of data entries you wish to have plotted on the one graph. It is a count, so the value entered should not contain a decimal point. For the Histogram with maxima and minima, this is the number of columns that will be plotted. Two data entries are required to draw each column. For the Histogram with multiple bars per period, this will define the number of bar groups for which data will be entered.

Will there be any negative values ?

If some of the figures to be entered are less than zero, the program will need to know. To plot negatives, the graph will start with a zero line running horizontally through the middle of the graph. If you reply "yes", the total range of the graph will be twice the maximum figure entered earlier, as the program values will cater for values from the maximum to the negative of the maximum.

Do you want a split Y axis ?

This will place a scratch mark of sorts on the Y axis, to indicate that values plotted are not necessarily beginning from zero. It does not affect the way values are plotted and is merely a cosmetic effect that you can employ if desired.

Do you want a split X axis ?

This will place a scratch mark of sorts on the X axis, to indicate that values plotted are not necessarily beginning from zero. It does not affect the way values are plotted and is merely a cosmetic effect that you can employ if desired.

Startpoint difference from Y=Ø :-

This allows you to set the distance between the sides of the graphing area and the closest columns. A large value will cause all of the graph to be in the centre portion of the screen.

Do you want index marks on the Y axis ?

If selected, this will place small marks at regular intervals on the Y axis. Their spacing is determined by the height of the graph and the number you requested, and not by an entered value.

Number of points on the Y axis :-

This is where you determine the number of intervals that are marked on the Y axis. When you are using negative values, there will actually be twice the number of marks that you requested, as there will be a set for both positive and

negative values.

Frame the diagram ?

A graph really only requires two solid lines, i.e., the axes. Drawing another two lines at the top and to the right of the graph both improves the appearance of the graph and provides a visual reminder of the position of the maximum value.

Double bottom on frame ?

This will draw another horizontal line below the x axis for further emphasis.

Number of points between columns :-

This is the amount of space to be left between consecutive columns. You may have noticed that you are never asked how wide you want the columns to be. This is because the width of the columns is determined by the number of periods, the gap left between columns and the total width of the diagram.

Questions particular to the Histogram with optional maxima and minima.

This histogram allows you to enter two figures for each period and show them as two heights in the one column. The idea is that you may wish to simultaneously plot two histograms, where one of them represents values which are always less than the other. An example of this would be a plot of daily recorded minimum and maximum temperatures. If you select this option, when asked, enter data twice for each period. Firstly, you will be asked to enter a value for the period normally, after which you will be asked to enter the maximum value for the period.

Graph max and min figures ?

This is the way you select whether you will have one or two values per column. If you select "No", the following will not apply.

Fill the area between max and min figures ?

Each column will contain two areas. One is from the bottom to the minimum value and the second is from the minimum value to the maximum value. This second area can be shaded if you wish.

Fill inside the columns ?

If selected, this option will draw the lower part of the columns in solid colour (green on the screen, black on the

printout).

Questions particular to the Histogram with optional multiple bars per period

This type of histogram is capable of drawing a cluster of up to 4 columns for each period. The idea is that you may wish to simultaneously plot two independent sets of figures which relate to the same periods. An example of this would be a plot of weekly sales of two products.

Number of columns in each group :-

This is the number of independent sets of values to be plotted. The maximum allowed is 4.

Number of points between column groups :-

This is the amount of space to be left between consecutive column groups. You may have noticed that you are never asked how wide you want the columns to be. This is because the width of the columns is determined by the number of periods, the number of columns per period, the gap left between columns and the total width of the diagram.

Bars in different grey shades ?

Despite being clustered, it will be difficult to differentiate between columns unless they are marked in some way. This option will give each column of the groups a distinctive shade.

Questions particular to the Line Graph

Do you want index markers for each period ?

Because the points of the line graph are not connected to the x axis, it can be useful to place small marks on the axis below them.

Do you want the break points marked ?

To make the data points more noticeable, this option will draw little boxes around them.

5. Text Edit the Current Diagram

For nearly all purposes, a graph that merely shows lines and columns is not very useful. However, a few words and numbers to label the various elements can allow you to refer to the graph in an accompanying report or while you are speaking.

The text editor allows you to enter normal text at any location on the graph. The current diagram will be placed on the screen and a flashing cursor will appear. You can move the cursor by using the <CTRL> key and the keys for the letters I,J,K and M. Any characters you type will appear at the location of the cursor. If you make a mistake, re-position the cursor and retype the text.

When you have finished entering the text, press the <ESC> key to return to the main selection menu.

NOTE: It is possible to write over parts of the graph with this function and once you have done so, there is no way of restoring them. Of course, if you have saved the diagram before attempting the text edit, you can always load in the "clean" copy.

6. Print the Current Diagram

As it is difficult to walk out of the office with a computer in your briefcase, there is always a need to transfer graphs onto paper. This program allows you to dump the current diagram onto a dot matrix printer. Any EPSON compatible printer should be capable of performing this function.

There are two widths of printout provided. They both print from the left hand side of the paper and are the same height. The narrow print is approximately half the width of the other.

NOTE: As with all printing processes, it is vital that you check that the printer is connected and on-line before you attempt to print. Not doing so may cause the program to lock out and the current diagram might be lost.

7. Save the Current Diagram to Disk

This will allow you to copy the current diagram to a separate disk file, so that you may start work on another graph. By itself, this selection will not alter the current diagram in any way and so may be used to save a diagram, even though you intend to text edit it further.

The name to which you want the diagram saved may contain up to eight letters. Even though CP/M file names are of the form XXXXXXXX.XXX, you do not need to enter a dot, as ".DGM" will be added automatically.

If you save a diagram using a name that already exists on the disk, the save will overwrite the existing file. You will be shown a directory of the disk so that you can check to see if a name already exists before attempting the save. If, when asked to enter the name, you press <RETURN> without entering anything, the name DIAGRAM will be used. The program will show you the name that you have entered and ask if it is correct before attempting the save.

8. Load an Old Diagram from Disk

This will allow you to copy a diagram, previously saved on the disk, into the program to become the current diagram. If the current diagram has not been saved, it will be lost.

To load a graph, you must specify the one you want by entering its name. The name may contain up to eight letters. Even though CP/M file names are of the form XXXXXXXX.XXX, you do not need to enter a dot, as ".DGM" will be added automatically.

You will be shown the directory of the disk so that you can see which diagrams you have saved and therefore can load. If, when asked to enter the name, you press <RETURN> without entering anything, the name DIAGRAM will be used. The program will show you the name that you have entered and ask if it is correct before attempting the load. It is pointless entering a name that does not exist.

9. Display Some Demonstration Diagrams

This option will show a fixed sequence of example diagrams, which were created using this program.

10. Help Display General Information

This option will display the HELP.SBG file, one screen at a time. After each screen, you can either return to the main selection or continue to the next screen.

11. Quit this Program and Return to the System

This option is used when you have finished working with SBG and wish to return to CP/M.

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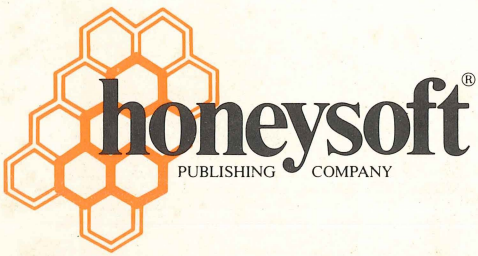

Prepared and published by
Honeysoft Publishing Company
1 Pattison Avenue, Waitara. 2077 © 1985

Cat. No. 216-081

ISBN 0 949309 45 1